

Supporting Information:

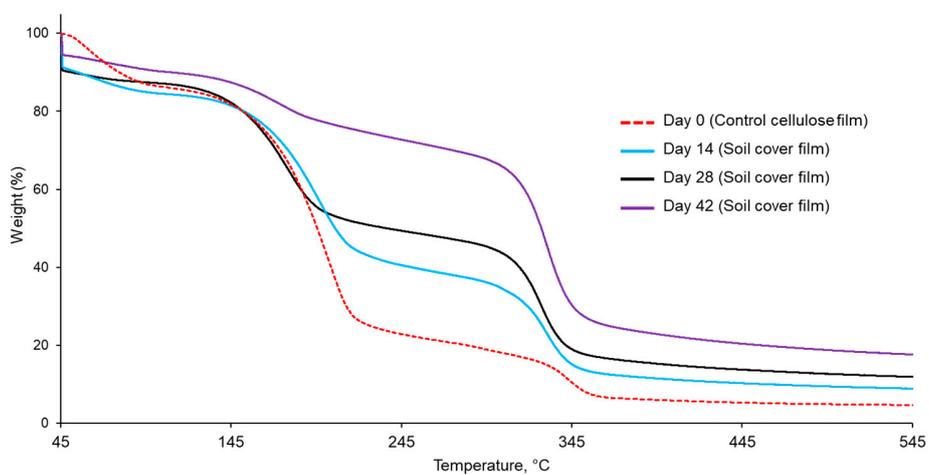
Upcycling Low-Quality Cotton Fibers into Mulch Materials in A Fast Closed Carbon Cycle

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a.



b.

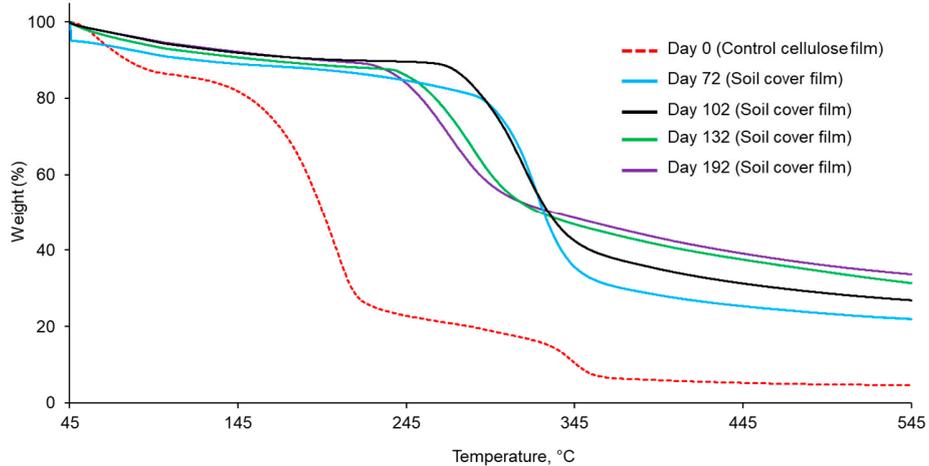
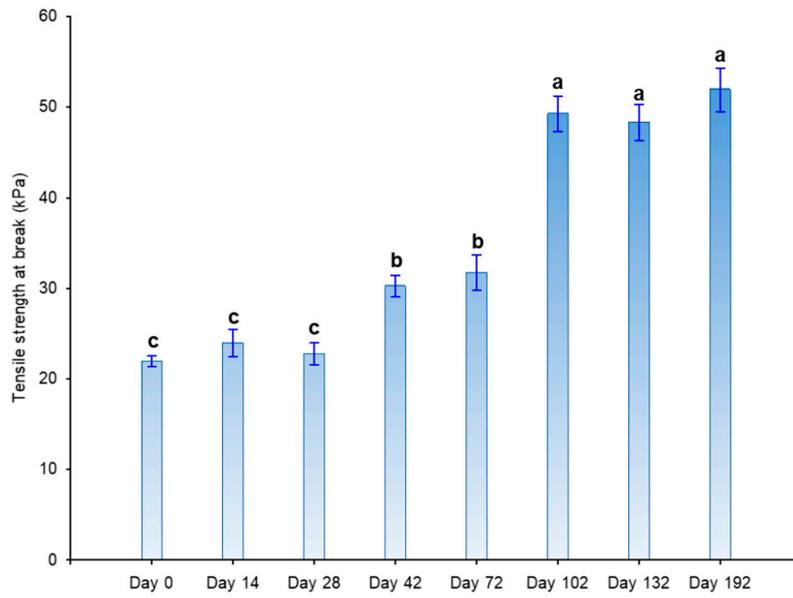


Figure S1 TGA thermograms of the control and soil cover films from day 0-day 42 days (a) and (b) day 72- day 192.

a.



b.

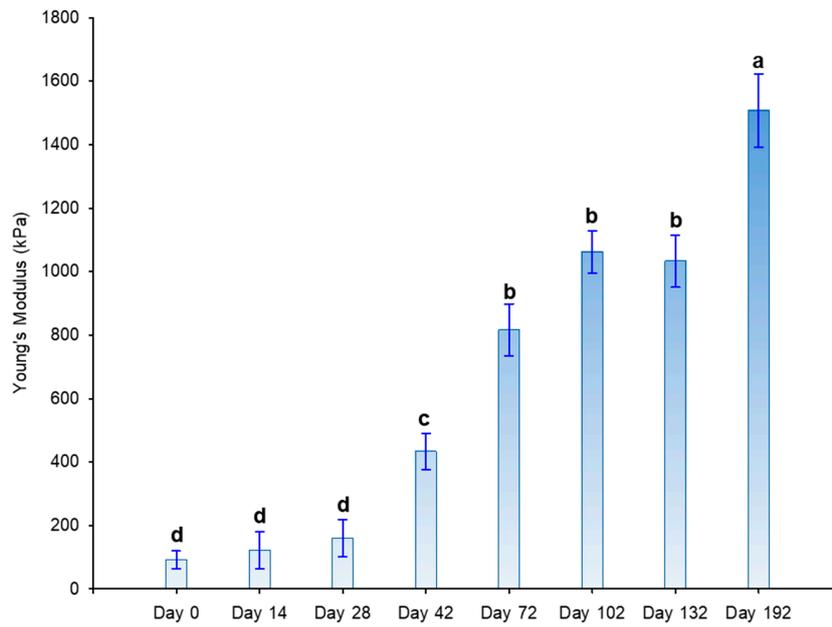


Figure S2 Tensile properties of cellulose films retrieved from soil cover experiment: (a) tensile strength; (b) Young's Modulus. Values not followed by the same letter significantly differ at $\alpha = 0.05$.